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[Energy-Efficient Design of Battery-Powered Embedded Systems - Simunic, Benini, De Micheli \(1999\) \(Correct\)](#)
 (15 citations)

of processor core, caches and main memory in **SoC** design have been proposed [7]10]Memory energy the MP3 audio decoder software to run in real **time** on the SmartBadge with low energy consumption. using cost-per-access models. Processor execution **traces** are used to drive memory models, thereby akebono.stanford.edu/users/tajana/papers/tvlsi_paper.ps

[Platune: A Tuning Framework for System-on-a-Chip Platforms - Givargis, Vahid \(2002\) \(Correct\) \(8 citations\)](#)

and Frank Vahid Abstract-System-on-a-chip (**SoC**) platform manufacturers are increasingly adding types of performance metrics, such as power and **timing** behavior of processors as well as peripheral and tracing programs and analyzing program **traces**, mostly intended for cache and memory hierarchy www.cs.ucr.edu/~vahid/pubs/tcad02_platune_draft.pdf

[A General Framework for Analysing System Properties in.. - Chakraborty, Künzli.. \(2003\) \(Correct\) \(4 citations\)](#)

The complexity of today's systems-on-chip (**SoC**) designs, coupled with issues like short Switzerland Abstract We present a framework (Real-Time Calculus) for analysing various system properties of any arbitrary event stream. Given the **trace** of an event stream, it is possible to extract a www.tik.ee.ethz.ch/~samarjit/psfiles/system_prop.ps

[Advanced Techniques for RTL Debugging - Yu-Chin Hsu Bassam \(2003\) \(Correct\) \(2 citations\)](#)

process for today's complex system-on-chip (**SoC**) designs. Figure 1: RTL Debugging Current day our automatic tracing scheme can shorten debugging **time** by orders of magnitude for unfamiliar designs. We approach of its kind that extracts, analyzes, **traces**, explores, and queries a design's multi-cycle www-2.cs.cmu.edu/afs/cs/user/yachen/www/papers/verdi-dac03.pdf

[Processor/Memory Co-Exploration on Multiple Abstraction Levels - Gunnar Braun Andreas \(2003\) \(Correct\)](#)
 (1 citation)

off-the-shelf processors in such systems-on-chip (**SoC**)Along with the processor cores, heterogeneous of the architecture implementation and the design **time**. Particularly, the ability to vary the abstraction cache hierarchies. The simulator takes a memory **trace** as input and generates memory profiling data. www.iss.rwth-aachen.de/4_publicationen/deutsch/dok/.../res_pdf/2003BraunDATE.pdf

[Model based approach to Hardware/Software - Partitioning Of Soc \(Correct\)](#)

based approach to Hardware/Software Partitioning of **SoC** Designs Pradeep Adhipathi Thesis submitted to the solution is found. This method is expensive and **time** consuming. A more modern approach is to model the 27 4.3.2 Event **Trace** Method scholar.lib.vt.edu/theses/available/etd-06252004-201429/unrestricted/thesis.pdf

[The Schreier-Sims algorithm - Murray \(1994\) \(Correct\)](#)

of a finite abstract group"Proc. Edinburgh Math. Soc.5, 26-34. Helmut Wielandt (1964)Finite 4 subgroup, 4 subspace, 58 symmetric group, 4 **timing**, 49 Todd-Coxeter algorithm, 7 Todd-Coxeter 7 Todd-Coxeter Schreier-Sims algorithm, 34 **trace** algorithm, 18 trivial group, 4 var statement, 5 www.mathe2.uni-bayreuth.de/axel/papers/.murray:the_schreier_sims_algorithm.ps

[A New Approach for System-level Architecture - Exploration Vladimir Zivkovi \(Correct\)](#)

two con icting trends: The transistor count of **SoCs** is exponentially growing -allowing ever above. Thus, it leads to the shorter simulation **time** while it can still give fairly accurate The symbolic program approach is based on both the **trace** driven approach and the control data ow graph www.liacs.nl/~lale/MyPapers/icest02.ps

[Mapping Specification-level primitives to - Ip-Primitives Case Study \(Correct\)](#)

microprocessorbased board. Such Systems-on-Chip (**SoC**) are heterogeneous, that is, they are embedding said that more effort at the system-level -to cut "**time-to-market**" is urgently needed. We agree and consisting of a symbolic program and a control **trace**. I. INTRODUCTION Today's embedded systems are www.liacs.nl/~lale/MyPapers/samos3.pdf

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[MEMPOWER: A Simple Memory Power Analysis Tool Set - Freeman Rawson Ibm](#) (Correct)

18 3.8.2 Support-**Chip** Power Models .

. 4 2.4 **Trace**-based **Time**-and-utilization Calculations .

www.research.ibm.com/ar/publications/papers/mempower_mambo.pdf

[A General Framework for Analysing System Properties in... - Embedded System Designs](#) (Correct)

timing analysis, loads on various components and on-**chip** buffer memory requirements of heterogeneous analysing various system properties pertaining to **timing** analysis, loads on various components and on-**chip** of any arbitrary event stream. Given the **trace** of an event stream, it is possible to extract a
ftp.tik.ee.ethz.ch/pub/people/thiele/others/DATE03.ps

[An Adaptive Silicon Synapse - Elisabetta Chicca Giacomo \(2003\)](#) (Correct)

and present experimental results measured from a **chip** fabricated using a standard 1.5m CMOS technology. the dynamic modulation of synaptic strength by the **timing** of the input stimulation [7] Although there has of Vw d (see lower left inset in graph) Each **trace** is normalized with respect to its maximum EPSP
www.ini.unizh.ch/~giacomo/papers/pdf/iscas03c.pdf

[Process Networks - David Hofstee Philips \(2003\)](#) (Correct)

the verification problems that large systems on **chip** have. CAKE is formed by a set of equal tiles. Each . 47 5.2.2 **Time** Criticality Diagram .

ce.et.tudelft.nl/publicationfiles/786_11_dhofstee_v1.0_18july2003_eindverslag.pdf

[Efficient Bit-Serial Constant Multiplication for FPGAs - Florian Dittmann Bernd](#) (Correct)

optimal concerning speed, but usually need much **chip** area. Embedded systems often cannot deal with the multiplication in embedded systems stood often for **time**-consuming and place-ineffective tasks, general technology. Therefore, we decided to split the **trace** of related work into two sections: architectures
wwwcs.upb.de/fachbereich/AG/rammig/www/members/berndk/.IPS/nasa03-const-mult.pdf

[H. Shafi P. J. Bohrer J. Phelan C. A. Rusu J. L. Peterson - Design And Validation](#) (Correct)

by Mambo is the PowerPC 405GP, a 32-bit system-on-a-**chip** PowerPC processor used in embedded applications.

events, allowing an estimate of energy usage over **time**. Unfortunately, such models are not useful for Sram Ocm Control Dcrs **Timers** Mmu Docm locm Jtag Dcu **Trace** Icu Powerpc 405gp Processor Core Gpio Iic Uart

www.research.ibm.com/journal/rd/475/shafi.pdf

[Low-Complexity Synchronization In A Navigation Receiver Under - Multipath Interference Jes](#) (Correct)

C/A signal, the DLL precision is approximately of 1 **chip**, and one data symbol is composed of 1023 **chips**, Box 1116, D-82230 Wessling, Germany ABSTRACT The **time**-of-arrival estimation error produced by multipath #8) where "is the **trace** operator, and we have omitted the dependency
mti.xidian.edu.cn/multimedia/2001/supp/icassp2001/MAIN/papers/pap1064.pdf

[Board-Level Multiterminal Net Assignment - Xiaoyu Song William \(2002\)](#) (Correct)

circuits that cannot fit onto a single FPGA **chip**, the field programmable interconnect **chip** (FPIC) Empirical results show that the method is **time**-efficient and applicable to large layout problem of the FPGA is connected to an FPIC pin through a **trace** on the board. An FPIC does not implement any
www.ece.pdx.edu/~whung/papers/GLSVLSI-2002.pdf

[Modeling of DRAM Power Control Policies - Using Deterministic And](#) (Correct)

complex policies and our results show that DRAM **chip** should always immediately transition to standby with decreasing power consumption but increasing **time** to transition back to Active. We must design a distribution, and validated our model against **trace**-driven simulations. Our results show that, for
www.cs.duke.edu/~xiaobo/papers/pacs02.ps

[Whydq9odr9 - Xq Lfurv Vwhpv](#) (Correct)

to put more resources on a single microprocessor **chip** than ever before. However, by putting more



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1 [Real-time interval logic for reasoning about executions of real-time programs](#)

R. Razouk, M. Gorlick

 November 1989 **ACM SIGSOFT Software Engineering Notes , Proceedings of the ACM SIGSOFT '89 third symposium on Software testing, analysis, and verification**, Volume 14 Issue 8
Full text available: [pdf\(935.02 KB\)](#)
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Research on the testing and debugging of distributed real-time programs now focuses on more formal approaches to specification and testing. Temporal logic is a natural candidate for this since it can specify properties of event and state sequences. However, the absence of any concept of real-time limits the application of temporal logic to non real-time behavior. This paper presents an extension of the interval logic of Schwartz et al. [SMSVP83], by increasing the expressive power of the lo ...

2 [A real-time microprocessor debugging technique](#)

Charles R. Hill

 March 1983 **Proceedings of the symposium on High-level debugging**, Volume 18 , 8 Issue 8 , 4
Full text available: [pdf\(380.29 KB\)](#)
 Additional Information: [full citation](#), [abstract](#), [references](#)

This note describes RED, a remotely executed debugger capable of generating a real-time source level trace history of a high level language program executing on a microprocessor. The trace history consists of a display of the source statements of each basic block executed, annotated by the time at which execution of that block began. Basic blocks are traced rather than statements to reduce sampling bandwidth requirements while still retaining the ability to record the essential logical flow of p ...

3 [Saving traces for Ada debugging](#)

Carol H. LeDoux, D. Stott Parker

 May 1985 **ACM SIGAda Ada Letters , Proceedings of the 1985 annual ACM SIGAda international conference on Ada**, Volume V Issue 2
Full text available: [pdf\(732.37 KB\)](#)
 Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

A trace database model for debugging concurrent Ada programs is presented. In this approach, trace information is captured in an historical database and queried using Prolog. This model was used to build a prototype debugger, called Your Own Debugger for Ada (YODA). The design of YODA is described and a trace analysis of a sample program exhibiting misuse of shared data is presented. Because the trace database model is flexible and general, it can aid diagnosis of a variety of runtime errors.

4 [Ada debugging and testing support environments](#)



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Relevance scale ☐ ☐ ☐ ☐ ☐**1 [Poster Session 1: On-chip delay measurement for silicon debug](#)**
 Ramyanshu Datta, Antony Sebastine, Ashwin Raghunathan, Jacob A. Abraham
 April 2004 **Proceedings of the 14th ACM Great Lakes symposium on VLSI**

 Full text available: [pdf\(113.39 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Efficient test and debug techniques are indispensable for performance characterization of large complex integrated circuits in deep-submicron and nanometer technologies. Performance characterization of such chips requires on-chip hardware and efficient debug schemes in order to reduce time to market and ensure shipping of chips with lower defect levels. In this paper we present an on-chip scheme for delay fault detection and performance characterization. The proposed technique allows for accurat ...

Keywords: delay fault testing, design for testability, silicon debug**2 [Debug Support, Calibration and Emulation for Multiple Processor and Powertrain Control SoCs](#)**

A. Mayer, H. Siebert, K. D. McDonald-Maier

 March 2005 **Proceedings of the conference on Design, Automation and Test in Europe - Volume 3**

 Full text available: [pdf\(222.95 KB\)](#) Additional Information: [full citation](#), [abstract](#)

The introduction of complex SoCs with multiple processor cores presents new development challenges, such that development support is now a decisive factor when choosing a System-on-Chip (SoC). The presented developments support strategy addresses the challenges using both architecture and technology approaches. The Multi-Core Debug Support (MCDS) architecture provides flexible triggering using cross triggers and a multiple core break and suspend switch. Temporal trace ordering is guaranteed down ...

3 [Session 8D: embedded tutorial: Test of future system-on-chips](#)

Yervant Zorian, Sujit Dey, Michael J. Rodgers

 November 2000 **Proceedings of the 2000 IEEE/ACM international conference on Computer-aided design**

 Full text available: [pdf\(140.88 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

Spurred by technology leading to the availability of millions of gates per chip, system-level integration is evolving as a new paradigm, allowing entire systems to be built on a single chip. Being able to rapidly develop, manufacture, test, debug and verify complex SOC's is crucial for the continued success of the electronics industry. This growth is expected to continue full force at least for the next decade, while making possible the production of multimillion transistor chips. However, to mak ...



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